MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
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DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

Firestone Building Products Company, LLC
250 East 96th Street
Indianapolis, IN 46240-3702

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Firestone Modified Bitumen Roof Systems over Cementitious Wood Fiber Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA No.10-1230.06 and consists of pages 1 through 22.
The submitted documentation was reviewed by Jorge L. Acebo.

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Modified Bitumen
Material: APP/SBS
Deck Type: Cementitious Wood Fiber
Maximum Design Pressure: -45 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
SBS Base	39.4" x 50'	ASTM D6163	Fiberglass reinforced SBS Base. Applied in hot asphalt or mechanically attached.
Ply IV	33" x 180"	ASTM D2178	Fiberglass reinforced, asphalt impregnated, roofing ply. Applied in hot asphalt.
Ply VI	33" x 180"	ASTM D2178	Fiberglass reinforced, asphalt impregnated, roofing ply. Applied in hot asphalt.
Ply IV (4) M	39.4" x 164.5'	ASTM D2178	Fiberglass reinforced, asphalt impregnated, roofing ply. Applied in hot asphalt.
Ply VI (6) M	39.4" x 164.5'	ASTM D2178	Fiberglass reinforced, asphalt impregnated, roofing ply. Applied in hot asphalt.
MB Base	36" x 108'	ASTM D4601	Fiberglass reinforced base sheet, asphalt coated on both sides. Applied in hot asphalt or mechanically attached.
MB Base M	39.4" x 98.7'	ASTM D4601	Fiberglass reinforced base sheet, asphalt coated on both sides. Applied in hot asphalt or mechanically attached.
SBS Smooth	39.4" x 33'10"	ASTM D6164	Smooth surfaced, modified bitumen membrane reinforced with non-woven polyester mat. Applied in hot asphalt.
APP 160-P	39.4" x 32'9"	ASTM D6222	Polyester reinforced modified bitumen, smooth surfaced membrane. Torch applied for use as a base or ply sheet only.
APP 180	39.4" x 32'10"	ASTM D6222	Polyester reinforced modified bitumen, granule surfaced membrane. Torch applied.
APP 180-P	39.4" x 32'9"	ASTM D6222	Polyester reinforced modified bitumen, granule surfaced membrane. Torch applied.
APP 180 UltraWhite	39.4" x 32'10"	ASTM D6222	Polyester reinforced modified bitumen, UltraWhite granule surfaced membrane. Torch applied.

Product	Dimensions	Test Specification	Product Description
APP 180 FR	39.4" x 32'10"	ASTM D6222	Polyester reinforced, fire retardant modified bitumen, granule surfaced membrane. Torch applied.
APP 180 FR UltraWhite	39.4" x 32'10"	ASTM D6222	Polyester reinforced, fire retardant modified bitumen, UltraWhite granule surfaced membrane. Torch applied.
SBS Glass	39.4" x 33'10"	ASTM D6163	Fiberglass reinforced, granule surfaced, modified bitumen membrane. Applied in hot asphalt.
SBS Glass FR		ASTM D6163	Fiberglass reinforced, fire rated, granule surfaced, modified bitumen membrane. Applied in hot asphalt.
SBS Glass FR UltraWhite		ASTM D6163	UltraWhite fiberglass reinforced, fire rated, granule surfaced, modified bitumen membrane. Applied in hot asphalt.
SBS Cap	39.4" x 33'10"	ASTM D6164	Granule surfaced, modified bitumen membrane reinforced with non-woven polyester mat.
SBS Cap UltraWhite	39.4" x 33'10"	ASTM D6164	UltraWhite granule surfaced, modified bitumen membrane reinforced with non-woven polyester mat.
SBS FR Cap	39.4" x 33'10"	ASTM D6164	Granule surfaced, modified bitumen membrane reinforced with non-woven polyester mat.
SBS FR Cap UltraWhite	39.4" x 33'10"	ASTM D6164	UltraWhite granule surfaced, modified bitumen membrane reinforced with non-woven polyester mat.
SBS Premium	39.4" x 33'10"	ASTM D6164	Granule surfaced, modified bitumen membrane reinforced with polyester mat. Applied in hot asphalt.
SBS Premium FR	39.4" x 33'10"	ASTM D6164	Granule surfaced, fire rated, modified bitumen membrane reinforced with non-woven polyester mat.
SBS Premium FR UltraWhite	39.4" x 33'10"	ASTM D6164	UltraWhite granule surfaced, fire rated, modified bitumen membrane reinforced with non-woven polyester mat.
SBS Torch	48” x 39”	ASTM D6164	Granule surfaced, SBS cap reinforced with a non-woven polyester mat, with burn off film and fiberglass enhanced

Product	Dimensions	Test Specification	Product Description
SBS Torch UltraWhite	48” x 39”	ASTM D6164	UltraWhite granule surfaced, SBS cap reinforced with a non-woven polyester mat, with burn off film and fiberglass enhanced
SBS FR Torch	48” x 39”	ASTM D6164	Granule surfaced, fire rated, SBS cap reinforced with a non-woven polyester mat, with burn off film and fiberglass enhanced
SBS FR Torch UltraWhite	48” x 39”	ASTM D6164	UltraWhite granule surfaced, fire rated, SBS cap reinforced with a non-woven polyester mat, with burn off film and fiberglass enhanced
SBS Glass FR Torch		ASTM D6163	Fiberglass reinforced, fire rated, granule surfaced, modified bitumen membrane. with burn off film and fiberglass enhanced
SBS Glass FR Torch UltraWhite		ASTM D6163	UltraWhite fiberglass reinforced, fire rated, granule surfaced, modified bitumen membrane. with burn off film and fiberglass enhanced
Multi-Purpose MB Cold Adhesive	55 gal.	Proprietary	An asphalt based adhesive.
LiquiGard Membrane Adhesive	6 gal.	Proprietary	A two-component, solvent-free, asphalt-based urethane adhesive.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ACFoam-II	Isocyanurate Insulation	Atlas Roofing Corp.
ISO 95+ GL, RESISTA	Isocyanurate Insulation	Firestone Building Products Company, LLC
ENRGY 3, ENRGY 3 25 PSI	Isocyanurate Insulation	Johns Manville Corp.
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic
Perlite Insulation Board	Perlite Insulation	Generic
Multi-Max-3, Multi-Max FA-3	Isocyanurate Insulation	Rmax Operating, LLC

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Firestone All-Purpose	Insulation and membrane fastener	Various	Firestone Building Products Company, LLC
2.	Firestone Heavy-Duty	Insulation and membrane fastener	Various	Firestone Building Products Company, LLC
3.	Firestone Concrete Drive	1/4" diameter concrete deck fastener.	Various	Firestone Building Products Company, LLC
4.	MB 2” Barbed Metal Seam Plate	Metal plates used for membrane securement.	2" dia.	Firestone Building Products Company, LLC
5.	Firestone 2-3/8 Barbed Seam Plate	Membrane seam attachment plate.	2-3/8" dia.	Firestone Building Products Company, LLC
6.	2” Metal Plate	Membrane attachment plate.	2" dia.	Firestone Building Products Company, LLC
7.	#14 & #15 HS Dekfast Fasteners	Insulation and membrane fastener	Various	SFS Intec, Inc.
8.	Dekfast Galvalume Steel Hex Plate	Insulation and membrane fastener	Various	SFS Intec, Inc.
9.	#12 & #14 Roofgrip	Insulation and membrane fastener	Various	OMG, Inc.
10.	3” Round Metal Plate	Galvalume AZ50 stress plate	3" round	OMG, Inc.
11.	OMG Fasteners #14 & #15	Insulation and membrane fastener	Various	OMG, Inc.
12.	OMG Standard	Galvalume AZ55 stress plate	3" round	OMG, Inc.
13.	OMG Plastic Plate	Plastic plates for fasteners.	3" round	OMG, Inc.
14.	Tru-Fast Fasteners	Insulation and membrane fastener	Various	Altenloh, Brinck & Co. U.S., Inc.
15.	Trufast 3” Metal Insulation Plate	Galvalume AZ50 steel plate	3.23" round	Altenloh, Brinck & Co. U.S., Inc.
16.	Insulation Fastening Plate	Insulation plate for use with Firestone Fasteners	3” round	Firestone Building Products Company, LLC
17.	Firestone Polymer	Glass reinforced nylon fastener for Gypsum or CWF decks.	11/16”	Firestone Building Products Company, LLC
18.	Firestone Polymer Fastener Insulation Plate	Galvalume plate for use with the Polymer Fastener.	3” square	Firestone Building Products Company, LLC
19.	ES Twin Loc-Nail Fasteners	Base sheet fastener with integrated Plate.	2.7” dia. Plate	ES Products, Inc.
20.	Two Piece Impact Nail	Base sheet fastener with integrated Plate.	2.7” dia. Plate	Firestone Building Products Company, LLC
21.	Recessed Metal Plate	Galvalume AZ50 stress plate	3" square	OMG, Inc.

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
FM Approvals	0Z5A3.AM	FM 4470	03/08/95
	2Y3A3.AM	FM 4470	11/28/94
	1D5A8.AM	FM 4470	09/09/98
	3003597	FM 4470	07/14/99
	3004786	FM 4470	05/16/00
	3005030	FM 4470	08/08/00
	3007328	FM 4470	07/12/02
	3041534	FM 4470	03/09/11
	3038191	FM 4470	08/04/11
Underwriters Laboratories	R9516	UL 790	01/25/13
Trinity | ERD	4810.01.96-1	TAS 114(C) & TAS 114(D)	01/31/96
	4810.10.96-1-R1	TAS 114	03/09/09
	4674.11.01-1	TAS 114	03/21/06
	F10370.05.08	ASTM C 1289	05/08/08
	F10500.10.08-1	ASTM D6163	08/26/08
	F31960.05.10-1	ASTM D4977	05/19/10
	F31960.05.10-2	ASTM D4977	05/19/10
	F31960.08.10-1	ASTM D4977	08/25/10
	F31960.08.10-2	ASTM D4977	08/25/10
	F354005.11	ASTM Physical Properties	05/31/11
	F410708.12	ASTM D6222	08/24/12
	U41790.05.12-2-R2	ASTM D6222	02/11/13
	U41790.05.12-1-R1	ASTM D6222	01/21/13
IRT-ARCON, Inc.	02-026	TAS 114	07/26/02
PRI Construction Materials Technologies, LLC	FBP-018-02-01	ASTM D 6163	09/07/04
	FBP-011-02-01	ASTM D 6164	09/02/04
	FBP-008-02-01	ASTM D 6222	09/10/04
	FBP-009-02-01	ASTM D 6222	08/31/04
	FBP-010-02-01	ASTM D 6164	09/04/04
	FBP-014-02-01	ASTM D 6164	09/02/04
	FBP-015-02-01	ASTM D 6509	09/02/04
	FBP-016-02-01	ASTM D 6509	09/02/04
	FBP-017-02-01	ASTM D 6163	09/13/04
	FBP-019-02-01	ASTM D 4601	09/14/04
	FBP-023-02-01	ASTM D 6223	09/01/04
	FBP-007-02-01	ASTM D 6222	09/14/04
	FBP-020-02-01	ASTM D 2178	09/14/04
	FBP-038-02-03	ASTM D 6164	01/12/11
	FBP-038-02-04	ASTM D 6164	01/12/11
	FBP-038-02-02	ASTM D 6164	01/12/11
	FBP-038-02-01	ASTM D 6164	12/27/10
	FBP-043-02-03	ASTM D 6164	07/26/11
	FBP-043-02-02	ASTM D 6164	08/02/11

Test Agency	Test Identifier	Description	Date
PRI Construction Materials Technologies, LLC	FBP-043-02-04	ASTM D 6164	07/26/11
	FBP-043-02-01	ASTM D 6164	08/02/11
	FBP-042-02-01	ASTM D 6164	07/26/11
	FBP-042-02-02	ASTM D 6164	07/27/11
	FBP-058-02-01	ASTM D 4601	12/12/08
	FBP-057-02-01	ASTM D 2178	12/12/08
	FBP-056-02-01	ASTM D 2178	12/12/08
	FBP-059-02-01	ASTM D 1876	07/20/12
	FBP-087-02-01	ASTM D 4798	03/22/13
	FBP-088-02-01	ASTM D 4798	03/22/13

APPROVED ASSEMBLIES

Membrane Type: APP

Deck Type 5I: Cementitious Wood Fiber, Insulated

Deck Description: Cementitious wood fiber

System Type A(1): Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

All General and System Limitations apply.
One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Approved Perlite Minimum ¾" thick	**N/A**	**N/A**
ACFoam-II Minimum 1.3" thick	**N/A**	**N/A**
ENRGY 3, ENRGY 3 25 PSI, ISO 95+ GL or RESISTA Minimum 1.4" thick	**N/A**	**N/A**
Multi-Max-3 Minimum 1.5" thick	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Approved Perlite Minimum ¾" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Anchor Sheet: One ply of Firestone MB Base or MB Base M with a 4" side lap mechanically fastened to the lightweight deck as described below:

Fastening: Fasten base sheet with any approved cementitious wood fiber deck fasteners listed in this NOA, fastened 12" o.c. at the 4" side lap, and with two staggered rows in the center of the sheet fastened 18" o.c.; see System Limitation # 2.

Base Sheet: One ply of Firestone MB Base adhered to the insulation with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.. If base sheet is applied directly to polyisocyanurate insulation, only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.

Ply Sheet: (Optional) One or more plies of Firestone MB Base, Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M sheet or other listed base sheet applied in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane:	One ply of Firestone APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite applied by torch parallel to the base ply, with the overlaps staggered 12".
Surfacing:	Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following: (Optional over APP 180 FR)

1. Gravel or slag at 400 lb. and 300 lb., respectively, in a flood coat of approved asphalt at an application rate of 60 lb./sq..
2. Karnak No. 97, No. 97 AF or No. 169, Henry 520 aluminum, MB aluminum coating or APOC #212 at an application rate of 1½ gal./sq.

Maximum Design Pressure:	-45 psf (See General Limitation #9.)

Membrane Type: SBS

Deck Type 5I: Cementitious Wood Fiber, Insulated

Deck Description: Cementitious wood fiber

System Type A(2): Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

All General and System Limitations apply.
One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Approved Perlite Minimum ¾" thick	**N/A**	**N/A**
ACFoam-II Minimum 1.3" thick	**N/A**	**N/A**
ENRGY 3, ENRGY 3 25 PSI, ISO 95+ GL or RESISTA Minimum 1.4" thick	**N/A**	**N/A**
Multi-Max-3 Minimum 1.5" thick	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Appoved Perlite Minimum ¾" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Anchor Sheet: One ply of Firestone SBS Base or other approved ASTM D 4601 type II base sheet nailed to the deck 9" o.c. at the lap and 18" o.c. in two staggered rows centered on the sheet.

Fastening: Fasten base sheet with any approved cementitious wood fiber deck fasteners listed in this NOA, fastened 12" o.c. at the 4" side lap, and with two staggered rows in the center of the sheet fastened 18" o.c.; see System Limitation # 2.

Base Sheet: One ply of Firestone MB Base, SBS Base, Firestone Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet:	(Optional) One of SBS Smooth, SBS Base or Firestone Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Membrane:	One ply of Firestone SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. OR (Not with MB Base) One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal/square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal/square OR One ply of Firestone SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite, torch adhered OR (Not with SBS Base, SBS Smooth) One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal/sq.
Surfacing:	(Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following: 1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.. 2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq.
Maximum Design Pressure:	-45 psf (See General Limitation #9.)

Membrane Type: APP

Deck Type 5I: Cementitious Wood Fiber, Insulated

Deck Description: Cementitious wood fiber

System Type C(1): All layers of insulation simultaneously fastened.

All General and System Limitations apply.
One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Approved High Density Wood Fiberboard Minimum ½" thick	**N/A**	**N/A**
Approved Perlite Minimum ¾" thick	**N/A**	**N/A**
ACFoam-II Minimum 1.3" thick	**N/A**	**N/A**
ISO 95+ GL or RESISTA Minimum 1.4" thick	**N/A**	**N/A**
Multi-Max FA-3 Minimum 1.5" thick	**N/A**	**N/A**

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Approved Perlite Minimum ¾" thick	**18**	**1:3 ft^2**

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of Firestone MB Base adhered to the insulation with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.. If base sheet is applied directly to polyisocyanurate insulation, only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.

Ply Sheet: (Optional) One or more plies of Firestone MB Base, Firestone Ply IV, Ply IV M, Ply VI or Ply VI (6) M ply sheet or other listed base sheet applied in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of Firestone APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite applied by torch parallel to the base ply, with the overlaps staggered 12".

Surfacing: Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following: (Optional over APP 180 FR)

1. Gravel or slag at 400 lb. and 300 lb., respectively, in a flood coat of approved asphalt at an application rate of 60 lb./sq..
2. Karnak No. 97, No. 97 AF or No. 169, or APOC #212 at an application rate of 1½ gal./sq.

Maximum Design Pressure: -45 psf (See General Limitation #9.)

Membrane Type: SBS

Deck Type 5I: Cementitious Wood Fiber, Insulated

Deck Description: Cementitious wood fiber

System Type C(2): All layers of insulation simultaneously fastened.

All General and System Limitations apply.
One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Approved High Density Wood Fiberboard Minimum ½" thick	**N/A**	**N/A**
Approved Perlite Minimum ¾" thick	**N/A**	**N/A**
ACFoam-II Minimum 1.3" thick	**N/A**	**N/A**
ISO 95+ GL or RESISTA Minimum 1.4" thick	**N/A**	**N/A**
Multi-Max FA-3 Minimum 1.5" thick	**N/A**	**N/A**

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Approved Perlite Minimum ¾" thick	**17**	**1:3 ft^2**

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of Firestone MB Base, SBS Base, Firestone Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional) One of SBS Smooth, SBS Base, or Firestone Ply IV, Ply IV M, Ply VI or Ply VI (6) M ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of Firestone SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

OR

(Not with MB Base) One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal/square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal/square

OR

One ply of Firestone SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite, torch adhered

OR

(Not with SBS Base, SBS Smooth) One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal/sq.

Surfacing: (Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq..
2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq.

Maximum Design Pressure: -45 psf (See General Limitation #9.)

Membrane Type: APP

Deck Type 5I: Cementitious Wood Fiber, Insulated

Deck Description: Cementitious wood fiber

System Type D(1): All layers of insulation and base sheet simultaneously fastened.

All General and System Limitations apply.
One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Approved Perlite Minimum ¾" thick	**N/A**	**N/A**
ACFoam-II Minimum 1.3" thick	**N/A**	**N/A**
ENRGY 3, ENRGY 3 25 PSI, ISO 95+ GL or RESISTA Minimum 1.4" thick	**N/A**	**N/A**
Multi-Max-3 Minimum 1.5" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of Firestone MB Base or MB Base M with a 4" side lap mechanically fastened to the deck through the insulation as described below:

Fastening: Fasten base sheet with any approved cementitious wood fiber deck fasteners listed in this NOA, fastened 12" o.c. at the 4" side lap, and with two staggered rows in the center of the sheet fastened 18" o.c.; see System Limitation # 2.

Fasten base sheet over an additional ply of approved base sheet with Rawlite Fasteners and Stress Plates in the lap 18" o.c. and one row centered on the sheet 18" o.c.

Ply Sheet: (Optional) One or more plies of Firestone MB Base, Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet or other listed base sheet applied in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of Firestone APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, applied by torch parallel to the base ply, with the overlaps staggered 12".

Surfacing: Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following: (Optional over APP 180 FR)

1. Gravel or slag at 400 lb. and 300 lb., respectively, in a flood coat of approved asphalt at an application rate of 60 lb./sq..
2. Karnak No. 97, No. 97 AF or No. 169, or APOC #212 at an application rate of 1½ gal./sq.

Maximum Design Pressure: -45 psf (See General Limitation #9.)

Membrane Type: SBS

Deck Type 5I: Cementitious Wood Fiber, Insulated

Deck Description: Cementitious wood fiber

System Type D(2): All layers of insulation and base sheet simultaneously fastened.

All General and System Limitations apply.
One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Approved Perlite Minimum ¾" thick	**N/A**	**N/A**
ACFoam-II Minimum 1.3" thick	**N/A**	**N/A**
ISO 95+ GL or RESISTA Minimum 1.4" thick	**N/A**	**N/A**
Multi-Max-3 Minimum 1.5" thick	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Approved Perlite Minimum ¾" thick	**N/A**	**N/A**
Approved High Density Wood Fiberboard Minimum ½" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of Firestone MB Base, MB Base M, SBS BaseSBS Base or with a 4" side lap mechanically fastened to the deck through the insulation as described below:

Fastening: Fasten base sheet with any approved cementitious wood fiber deck fasteners listed in this NOA, fastened 12" o.c. at the 4" side lap, and with two staggered rows in the center of the sheet fastened 18" o.c.; see System Limitation # 2.

Ply Sheet: (Optional) One of SBS Smooth, SBS BaseSBS Base, or Firestone Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of Firestone SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

OR

(Not with MB Base) One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal/square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal/square

OR

One ply of Firestone SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite, torch adhered

OR

(Not with SBS BaseSBS Base, , SBS Smooth) One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal/sq.

Surfacing: (Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq..
2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq.

Maximum Design Pressure: -45 psf (See General Limitation #9.)

Membrane Type: APP

Deck Type 5: Cementitious Wood Fiber, Non-Insulated

Deck Description: Cementitious wood fiber

System Type E(1): Base sheet mechanically fastened.

All General and System Limitations apply.

Base Sheet:	One ply of Firestone MB Base or MB Base M with a 4" side lap mechanically fastened to the lightweight deck as described below:
Fastening:	Fasten base sheet with any approved cementitious wood fiber deck fasteners listed in this NOA, fastened 12" o.c. at the 4" side lap, and with two staggered rows in the center of the sheet fastened 18" o.c.; see System Limitation # 2.
Ply Sheet:	None.
Membrane:	One ply of Firestone APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, torch applied to the base ply.
Surfacing:	Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following: (Optional over APP 180 FR)

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq..
2. Karnak No. 97, No. 97 AF or No. 169 at an application rate of 1½-3 gal./sq.

Maximum Design Pressure:	-45 psf (See General Limitation #9.)

Membrane Type: SBS

Deck Type 5: Cementitious Wood Fiber, Non-Insulated

Deck Description: Cementitious wood fiber

System Type E(2): Base sheet mechanically fastened.

All General and System Limitations apply.

Base Sheet: One ply of Firestone SBS BaseSBS Base, or other approved ASTM D 4601 type II base sheet nailed to the deck 9" o.c. at the lap and 18" o.c. in two staggered rows centered on the sheet.

Fastening: Fasten base sheet with any approved cementitious wood fiber deck fasteners listed in this NOA, fastened 12" o.c. at the 4" side lap, and with two staggered rows in the center of the sheet fastened 18" o.c.; see System Limitation # 2.

Ply Sheet: (Optional) One ply of SBS Smooth, SBS Base or Firestone Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of Firestone SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

OR

One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal/square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal/square.

OR

One ply of Firestone SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite, torch adhered.

OR

(Only when adhering to Type IV or Type VI felts) One ply of Firestone SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite cap sheet fully adhered to the base sheet with Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal/sq.

Surfacing: (Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq..
2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq.

Maximum Design Pressure: -45 psf (See General Limitation #9.)

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9N-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE